

Abrex 400 Plates

Abrex 400 Plates are high-quality abrasion resistant steel plates

Abrex 400 Plates are high-quality abrasion resistant steel plates known for their excellent wear resistance, toughness, and durability. These plates are manufactured by Nippon Steel Corporation and are widely used in heavy industries where abrasion and impact are major concerns.



Sai Steel & Engineering Co.

(An ISO 9001:2008 Certified Company)

Abrex 400 Plates are one of the **most reliable abrasion resistant steel plates** in the industry. With their **perfect balance of hardness, toughness, and workability**, they are widely preferred in industries where **wear resistance is critical**.



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INTRODUCTION

Abrex 400 Plates are high-quality **abrasion resistant steel plates** designed to withstand **severe wear, friction, and impact** in demanding industrial environments. Manufactured by Nippon Steel Corporation, these plates are widely recognized for their **consistent hardness, durability, and reliable performance**.

With a nominal hardness of around **400 Brinell (HBW)**, Abrex 400 offers an excellent balance between **wear resistance and toughness**. This makes it suitable for applications where materials like **sand, gravel, ores, and coal** cause continuous surface damage to equipment.

These plates are produced using advanced **quenching and tempering processes**, which enhance their mechanical properties and ensure uniform hardness throughout the plate. Unlike ordinary steel, Abrex 400 is specifically developed to **extend the life of machinery and reduce maintenance costs**.

□ What is Abrex 400 Plate?

Abrex 400 is a **high-strength abrasion resistant steel plate** manufactured mainly by Nippon Steel. It is designed to provide **excellent resistance against wear, friction, and impact** in tough environments.

- Hardness: ~400 BHN
- Type: Quenched & tempered steel
- Use: Heavy-duty industrial applications

□ It offers **2-3 times longer life than mild steel**

□ Key Features

- **High Wear Resistance** – Suitable for harsh abrasive conditions
 - **Good Toughness** – Handles impact loads effectively
 - **Excellent Weldability** – Easier fabrication due to low carbon content
 - **Uniform Hardness** – Consistent performance across the plate
 - **Smooth Surface Finish** – Better fitting and application
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□ Technical Specifications

- **Hardness:** ~400 HBW
 - **Thickness:** 6 mm to 100 mm+
 - **Width:** 1500 mm to 2500 mm
 - **Length:** 6000 mm to 12000 mm
 - **Heat Treatment:** Quenched & Tempered
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□ Chemical Composition (Typical)

- Carbon (C): $\leq 0.21\%$
- Manganese (Mn): $\leq 2.00\%$
- Chromium (Cr): $\leq 1.20\%$
- Nickel (Ni): $\leq 1.00\%$
- Molybdenum (Mo): $\leq 0.60\%$

□ These elements improve **hardness, strength, and durability**

□ Mechanical Properties

- **Tensile Strength:** High (approx. 1000+ MPa range)
 - **Impact Resistance:** Good
 - **Bendability:** Moderate
 - **Abrasion Resistance:** ~3 times higher than normal steel
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□ Applications

Abrex 400 plates are widely used in:

- Mining & quarry industries
- Dump trucks & tippers
- Excavator buckets
- Conveyor belts & chutes
- Cement & power plants
- Recycling and scrap handling

☐ Suitable for handling **rocks, minerals, sand, and scrap**

☐ **Advantages**

- ✓ Longer service life
 - ✓ Reduced maintenance cost
 - ✓ Easy cutting, welding, and forming
 - ✓ High performance in extreme conditions
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☐ **Limitations**

- ☐ Not ideal for structural load-bearing use
- ☐ Machining is difficult due to hardness
- ☐ Requires proper welding techniques

☐ **Conclusion**

We are committed to delivering high-quality Abrex 400 Plates with reliable service and expert support. Our focus is to help you increase equipment life, reduce maintenance costs, and improve operational efficiency.

Contact Information

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